

SPOROBOLUS AIROIDES TORREY,
AN EXTENSION OF ITS RANGE IN
LINCOLN, NEBRASKA SALT MARSHES

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Sporobolus airoides Torrey was collected at a saline location on the west side of Lincoln, Nebraska on July 1, 1968 (Ungar 1251, BHO). This collection site is the eastern-most extension of the range of this species in Nebraska. Hitchcock (1950) reports *S. airoides* from Kansas and western Nebraska. Gates (1940) indicates that it occurs in Shawnee County, Kansas which is about 120 miles south of the Lincoln, Nebraska location. Its chief center of distribution is in the southwestern region of the United States (Hitchcock, 1950). Field research by Ungar (1970) in South Dakota and Redmann (1972) in North Dakota indicates that it is not present in saline soils in these states, and that the Nebraska station must be considered its northeastern-most extension in the eastern prairie region.

Sporobolus airoides was found growing in a single community in the Lincoln marsh area on the south side of Highway 6-2. This study site was moderately saline with a soil salinity averaging 0.2% and a median pH of 7.8. The plants made robust growth and fruiting material was found, but during the 1968 and 1969 growing seasons it did not invade the more highly saline marsh soils. Species occurring with *S. airoides* at this location included *Kochia scoparia* Schrad, *Ambrosia artemisiifolia* L., *Melilotus officinale* Lam., *Distichlis stricta* (Torr.) Rydb., *Sporobolus texanus* Vasey, and *Hordeum jubatum* L.

The introduction of *Sporobolus airoides* into this area may be due to human intervention since there is a railroad yard in this vicinity. It is certainly possible that the railroads are responsible for the long distance dispersal of *S. airoides* into eastern Nebraska. The availability of a saline site provided an ideal habitat for its establishment. The saline marsh habitats have several open ecological

niches, one of which is occupied by the introduced species *Tamarix pentandra* Pall. in the southern prairie region and the southwest. Possibly, if the distribution of *S. airoides* in southern saline locations can be used as an indicator, one could predict an expansion of *S. airoides* distribution in the Lincoln marshes, on the salt pans, or bordering the *Distichlis stricta* community.

Field studies of inland halophytes by Ungar (1965, 1970) in the prairie and plains states indicate that some species, such as *Salicornia rubra* Nels., *Suaeda depressa* (Pursh) S. Wats., *Sesuvium verrucosum* Raf., and *Distichlis stricta*, are nearly always limited to saline environments and their immediate surroundings. However, other species, such as *Hordeum jubatum*, *Kochia scoparia*, *Polygonum aviculare* L. and *Sporobolus airoides*, can be found growing under nonsaline conditions. The latter four species could be considered aggressive weeds under certain conditions.

LITERATURE CITED

- GATES, F. C. 1940. Flora of Kansas. Contribution No. 291. Dept. of Botany, Kansas State College, Manhattan, Kansas. 226 pp.
- HITCHCOCK, A. S. 1950. Manual of the grasses of the United States. U.S. Govt. Printing Office. Washington Miscellaneous Public. 200: 1-1051.
- REDMANN, R. E. 1972. Plant communities and soils of an eastern North Dakota Prairie. Bull. Torrey Bot. Club. 99: 65-76.
- UNGAR, I. A. 1965. An ecological study of the vegetation of the Big Salt Marsh, Stafford County, Kansas. Univ. Kansas Sci. Bull. 46: 1-98.
- . 1970. Species-soil relationships on sulfate dominated soils in South Dakota. Amer. Midl. Nat. 83: 343-357.
- . 1974. Inland halophytes of the United States. Pp. 235-305 in "Ecology of Halophytes". Academic Press. (R. Reimhold and W. Queen, Ed.)

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